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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,241	11/15/2001	Ulrich Bley	(10111227)	9275

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EXAMINER

PARSLEY, DAVID J

ART UNIT PAPER NUMBER

3643

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,241

Applicant(s)

BLEY ET AL.

Examiner

David J Parsley

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Action

Amendment

1. This office action is in response to applicant's amendment (paper no. 7) dated 9-26-03 and this action is final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,007,097 to Rink et al. in view of U.S. Patent No. 5,653,463 to Jeong.

Referring to claim 1, Rink discloses a gas generator comprising, an inner – 24, and an outer – 12, tube arranged concentrically one in the other, the inner tube forms a combustion chamber containing fuel and being closed with a cover plate – 16, and an end plate – 14, an igniter tube – proximate 27, extends through the combustion chamber and joins the cover plate – 16 to the end plate – 14 – see figure 1, an ignition element – 34, 36 is disposed in the cover plate – 16, the ignition element has an outlet opening – proximate 58, for ignition gases in communication with the igniter tube – 27, a longitudinal displaceable piston – at 34, disposed in the igniter tube – see figure 2 and column 5 lines 49-50, the igniter tube – 27 has radial openings

– 72, leading into the combustion chamber – see for example figures 1-3. Rink et al. does not disclose the igniter tube joined in the end plate to an outlet. Jeong does disclose an igniter tube – 46, having a cover plate – 32 and an end plate – 52, the igniter tube being joined in the end plate to an outlet – 48. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Rink and add the outlet in the end plate of Jeong, so as to allow for another means to allow the escape of the gas generated in the igniter tube.

Referring to claim 2, Rink as modified by Jeong further discloses a gas generator wherein a discharge chamber – at 50 of Jeong, is disposed in the end plate – 52, the outlet of the igniter – 46, opens into the discharge chamber – 50, the discharge chamber is connected through blowout openings – see figure 4, to an after burning chamber – 40, disposed between the outer – 30 and inner – 46 tubes – see for example figures 1-4 of Jeong.

Referring to claim 3, Rink as modified by Jeong further discloses the piston – 62 of Jeong, is joined to the cover plate – 64 with a break-away edge – 70.

Referring to claim 4, Rink as modified by Jeong further discloses an area – 36 of Jeong, for receiving the piston – 62, is disposed in the discharge chamber – 50, behind the discharge openings in the direction of flow – see for example figure 4.

Referring to claim 5, Rink as modified by Jeong further discloses the number of radial openings in the igniter tube increases towards the outlet opening – see for example Rink in column 4 lines 35-44.

Referring to claim 6, Rink as modified by Jeong further discloses discharge openings – 40 are disposed in the outer tube – 12 of Rink.

Referring to claim 7, Rink as modified by Jeong further discloses the discharge openings and blowout openings are closed by a membrane – see for example figures 1-3 and column 3 lines 25-29 of Rink.

Referring to claim 8, Rink as modified by Jeong further discloses after the ignition of the ignition element, the piston tears open the blowout openings – see for example figures 1-3 and column 6 lines 39-56 of Rink.

Referring to claim 9, Rink as modified by Jeong further discloses cooling elements disposed in the afterburning chamber – see for example column 3 lines 1-10 of Rink.

Response to Arguments

3. Regarding claim 1, the passageway – at 27 of the Rink reference, as it is formed by the wafer elements – 25 forms a tube as claimed. Applicant claims a tube extending through the combustion chamber joining the cover and end plates respectively which is shown in figure 1 of the Rink reference where the passageway at – 27 extends the entire length of the device along the central longitudinal axis of the device to form the tube through the combustion chamber and joining each end of the device.

Regarding claim 5, the Rink reference does disclose the increase of the number of radial openings in the igniter tube approaching the outlet in that at the very end – at 16, of the igniter tube formed at – 27, there are no openings – proximate 28,30, and as seen in column 4 lines 35-44 of Rink, there are multiple openings formed along the length of the ignition tube and thus the

number of openings in the tube increases traveling from the cover plate – 16 to the end plate – 16. Therefore for the reasons stated above applicant's arguments are not persuasive.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication from the examiner should be directed to David Parsley whose telephone number is (703) 306-0552. The examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon, can be reached at (703) 308-2574.

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A handwritten signature in black ink, appearing to read "Peter M. Poon". The signature is stylized with a large initial "P" and a long horizontal stroke at the end.

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600